

The claims:

1. Apparatus for regulating air flow into a rim mounted pneumatic vehicle tyre, said apparatus having an elongated valve housing with an inlet end, an outlet end and a central portion, the outlet end including a rim insertion portion configured to fit into an aperture in the tyre rim, a piston disposed within said housing and including a valve member, a coil spring acting between said housing and piston whereby in use of said apparatus the piston is biased to an open position for passage of air into said tyre and is movable against said bias under force of air pressure build-up in said tyre to a closed position at which the valve member seals against a valve seat to close off said passage of air wherein said piston and spring are located within said central portion of the housing clear of the rim insertion portion so that said rim insertion portion is of a reduced size not obstructive to the mounting of said tyre.
2. The apparatus as claimed in claim 1 wherein the spring acts in compression between a flange on the piston and an interior shoulder of the valve housing.
3. The apparatus as claimed in claim 2 wherein a visual indicator is fitted to the piston to show the position thereof.

4. The apparatus as claimed in claim 3 wherein the visual indicator is a band which is visible through a transparent portion of a cap fitted to the housing.
5. The apparatus as claimed in claim 4 wherein the cap can be turned down onto a threaded seat to an over-ride position whereby said band and piston are held to said open position irrespective of tyre pressure.
6. The apparatus as claimed in claim 5 wherein said cap includes an opaque portion which conceals said band when the cap is turned down to said over-ride position.
7. The apparatus as claimed in claim 7 wherein at said over-ride position a coloured ring is displayed through said transparent portion of the cap.
8. The apparatus as claimed in claim 7 wherein said ring also functions as a moisture/dust seal or a secondary gas seal in the event of leakage past a primary seal in said valve housing.
9. The apparatus as claimed in claim 8 wherein the piston is slidable along a central tube and cylinder wall in said housing, said tube being part of a sub-assembly which is connected to said housing.

10. The apparatus as claimed in claim 9 wherein the piston at an upper end thereof mounts said band and towards the lower end thereof carries said valve member shaped to form a pressure tight seal when engaged in the valve seat located at the base of said central tube.

11. The apparatus as claimed in claim 10 wherein the inlet end is fitted with a schrader valve.